

CLAIMS

1) A gaseous product detecting device (1; 20; 30; 40; 70) having at least one measuring cell (6; 59, 60),
5 and comprising at least one filtering element (3; 45) for retaining particulate present in the air entering said measuring cell (6; 59, 60), and at least one detecting element (13; 50, 56) housed inside said measuring cell (6; 59, 60); said device being characterized by
10 comprising a movable wall (9; 49, 61; 79, 82) of said measuring cell (6; 59, 60); said movable wall (9; 49, 61; 79, 82) being movable in fluidtight manner between a withdrawn position, in which said measuring cell (6; 59, 60) has a maximum volume, and a forward position, in
15 which said measuring cell (6; 59, 60) has a minimum volume and said detecting element (13; 50, 56) is prevented from being impressed by resting against a shutter surface (5a; 43a, 49b; 82a) of said measuring cell (6; 59, 60).

20 2) A detecting device as claimed in Claim 1, characterized in that said shutter surface (5a; 82a) resting against said detecting element (13) is carried by said movable wall (9; 82).

3) A detecting device as claimed in Claim 2,
25 characterized by comprising a second detecting element carried by said shutter surface (5a; 82a).

4) A detecting device as claimed in Claim 1, characterized in that said detecting element (50, 56) is

fixed to said movable wall (49, 61).

5) A detecting device as claimed in any one of the foregoing Claims, characterized by comprising a piston member (5; 47, 54; 71) carrying said movable wall (9; 49, 61; 79, 82).

6) A detecting device as claimed in Claim 5, characterized by comprising a cylindrical wall (2) closed at one end by said filtering element (3), and in which said piston member (5) slides in fluidtight manner; said cylindrical wall (2) defining said measuring cell (6) together with said filtering element (3) and said movable wall (9).

7) A detecting device as claimed in Claim 5 or 6, characterized in that said piston member (21) comprises a rod (22) having a threaded outer surface (23).

8) A detecting device as claimed in Claim 5 or 6, characterized by comprising a spring (34) surrounding a rod (10) of said piston member (5); and retaining means (35) for retaining said movable wall (9) in the forward position; said spring (34) being compressed when said movable wall (9) is in the forward position, so as to force said movable wall (9) into the withdrawn position.

9) A detecting device as claimed in Claim 5, characterized in that said piston member (47) comprises an inner cavity (48a, 49b) defining a further measuring cell (60) together with a surface (61a) of a movable wall (61) which slides in fluidtight manner inside said cavity (48a, 49b); said further measuring cell (60)

communicating with said measuring cell (59), and a further detecting element (56) being located inside said further measuring cell (60).

10) A detecting device as claimed in Claim 9,
5 characterized by comprising a further piston member (54) carrying said further movable wall (61).

11) A detecting device as claimed in Claim 9 or 10, characterized in that said further detecting element (56) is fixed to said further movable wall (61).

10 12) A detecting device as claimed in any one of Claims 2 to 4, characterized in that said movable wall (79, 82) comprises a peripheral portion (79); and a central portion (82) inside said peripheral portion (79) and movable independently of the peripheral portion (79),
15 so as to separate a pumping operation from a shielding operation shielding said detecting element (13).

13) A detecting device as claimed in Claim 12, characterized in that said peripheral portion (79) and said central portion (82) are carried by a first and
20 second rod (74)(81) respectively; said second rod (81) being housed inside said first rod (74).